

2013 ANNUAL STORMWATER POLLUTION PREVENTION PLANNING (SWPPP) TRAINING



Advanced Module



Why do you have to be here?



- Because your facility operates under a **General Discharge Permit for Stormwater Associated with Industrial Activities**.
 - "General Discharge Permit"
- You will set the standard for the private sector in Frederick County

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Why do you have to be here?



More specifically:

- Under 2d of **Section E** of Frederick County's **Municipal Separate Storm Sewer System (MS4)** Permit the County must identify all county-owned facilities requiring a **NPDES discharge permit** and submit documentation that a permit has been obtained for each facility.
- But why me?
 - Because you are mgmt., SWPPP team member

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2 options for County Ind. Facilities



- All County owned "industrial facilities" must submit a Notice of Intent (NOI) that a permit has been applied for or apply for **No Exposure Certification**
- All permitted facilities not eligible for No Exposure Certification must then develop a **Stormwater Pollution Prevention Plan (SWPPP)**.

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No Exposure?

- No exposure of any of the operations at the facility to PRECIPITATION.

C. Exposure Checklist		
Are any of the following materials or activities exposed to precipitation, now or in the foreseeable future? (Please check either "Yes" or "No" in the appropriate box.) If you answer "Yes" to any of these questions (1) through (8), you are not eligible for the no exposure exclusion.		
1. Using, storing or cleaning industrial machinery or equipment, and areas where residuals from using, storing or cleaning industrial machinery or equipment remain and are exposed to storm water	<input type="checkbox"/>	<input type="checkbox"/>
2. Materials or residuals on the ground or in storm water intake from spillways	<input type="checkbox"/>	<input type="checkbox"/>
3. Materials or products from past industrial activity	<input type="checkbox"/>	<input type="checkbox"/>
4. Material handling equipment	<input type="checkbox"/>	<input type="checkbox"/>
5. Materials or products during loading/unloading or transporting activities	<input type="checkbox"/>	<input type="checkbox"/>
6. Materials or products stored outdoors (except final products intended for outside use [e.g., new cars] where exposure to storm water does not result in the discharge of pollutants)	<input type="checkbox"/>	<input type="checkbox"/>
7. Materials contained in open, deteriorated or leaking storage drums, barrels, tanks, and similar containers	<input type="checkbox"/>	<input type="checkbox"/>
8. Materials or products handled/stored on roads or railways owned or maintained by the discharger	<input type="checkbox"/>	<input type="checkbox"/>
9. Waste material (except waste in covered, non-leaking containers)	<input type="checkbox"/>	<input type="checkbox"/>
10. Application or disposal of process wastewater (unless otherwise permitted)	<input type="checkbox"/>	<input type="checkbox"/>
11. Particulate matter or visible deposits of residuals from roof stacks and/or vents not otherwise regulated (i.e., under an air quality control permit) and evident in the storm water outflow	<input type="checkbox"/>	<input type="checkbox"/>

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Industrial Activities? Who me!?

- transportation facilities
 - (but only those who do vehicle maintenance)
- sewage treatment plants designed for over 1.0 MGD
- landfills
- recycling facilities
- etc.
- Considered "INDUSTRIAL"....

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14 Industrial Frederick County Facilities

- 14 county facilities covered by a permit
- 1 was able to get no-exposure certified.
 - Green Valley Fire-Rescue Station
- The remaining 13 have developed SWPPPs
 - Fleet Maintenance:** LEC, TransIT, FCPS Hayward Rd, 331 Montevue,
 - Satellite yards: Johnsville, Thurmont, Urbana, Myersville, Jefferson
 - WWTPs:** Ballenger Creek, New Market, Jefferson
 - Landfill:** Reichs Ford

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The new Permit is coming !!!



All permitted facilities will need to:

- submit a Notice of Intent (NOI) for all facilities along with a Stormwater Pollution Prevention Plan (SWPPP)
 - MDE will be reading the SWPPP beforehand!
- quantify the acreage of the facility as **treated** versus **untreated impervious** surfaces

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The new Permit is coming !!!

- restore **20%** of the facility's untreated impervious surface w/in **4 years**.
- conduct quarterly **visual assessments** of stormwater discharges from all outfalls on the facility property
- If your facility drains to impaired or high quality ("tier 2") waters, you will have additional obligations
- Etc....



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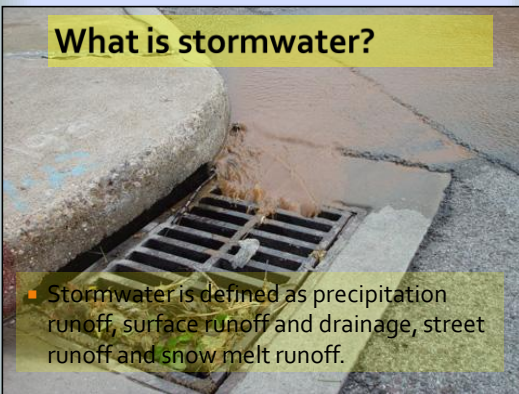
OSER to the Rescue



- The County's Office of Sustainability and Environmental Resources (OSER) will be assisting as before.
- Relax, deep breath.

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What is stormwater?



- Stormwater is defined as precipitation runoff, surface runoff and drainage, street runoff and snow melt runoff.

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What's Wrong With This Picture?



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What's Wrong With This Picture?



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Typical Stormwater Pollutants

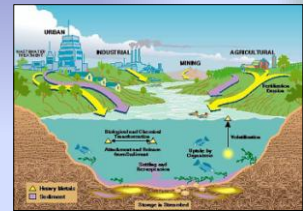
- Petroleum (oil, grease)
- Cooking grease/oils
- Sediment (soil)
- Salt
- Trash and debris
- De-icing fluids and coolants (glycols)
- Fertilizers, Herbicides, and Pesticides
- Fecal bacteria (pet & human feces)



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POTENTIAL EFFECTS

- Human health
 - Direct ingestion during recreation activities
 - Food chain
- Environmental
 - Benthic invertebrates
 - Fish
 - Birds
- Aesthetics
 - Odor
 - Visual (e.g., scums, sheens, etc.)
 - Garbage



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Storm (MS4) versus Sanitary Sewer



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6 Typical Pollution Sources from Your Facility

1. Loading and Unloading Operations
2. Outdoor Storage
3. Outdoor Process Activities
4. Dust or Particulate Generating Processes
5. Illicit Connections and Non-Stormwater Discharges
6. Waste Management

-EPA

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Uh oh!

Forklift + distracted driver + 55 gallon drum = STORMWATER POLLUTION



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ENVIRONMENTAL REGULATIONS



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Acronyms

- MS₄ = Municipal Separate Storm Sewer System
- NPDES = National Pollutant Discharge Elimination System

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Municipal Separate Storm Sewer System

- An MS₄ is a conveyance or system of conveyances that is:
 - Owned by a state, city, town, village, or other public entity that discharges to waters of the U.S.;
 - Designed or used to collect or convey stormwater (including storm drains, pipes, ditches, etc.);
 - Not a combined sewer; and
 - Not part of a Publicly Owned Treatment Works (sewage treatment plant).

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NPDES

- As authorized by the Clean Water Act, the National Pollutant Discharge Elimination System (NPDES) permit program **controls water pollution** by regulating point sources that discharge pollutants into waters of the United States.
 - **MS₄s are considered point-sources of pollution!**

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It all starts with the CWA...sorta

- 1972 Federal Water Pollution Control Act (FWPCA)
 - No more point source pollution discharges into navigable waters!
 - It required permit to discharge wastes to public resources



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The “real” Clean Water Act



- Law suit by NRDC against EPA in 1976 for lack of adequate effluent standards led to amendments to FWPCA

...which came to be known as the CWA of 1977!

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feeling sleepy?



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CWA becomes WQA in 1987

- Water Quality Act (WQA)
- WQA treated certain **stormwater** discharges as “point source pollution”
- WQA established new schedules for **industrial & municipal stormwater** discharges into U.S. waters
- Establishes the **NPDES for stormwater**.

National Pollutant Discharge Elimination System



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The NPDES Stormwater Program Regulates:



(EPA 2008)

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- 1991- The U.S. EPA starts its Stormwater Program
- 1992 – Industrial facilities required to implement a stormwater pollution prevention program



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Allowable Non-SW Discharges

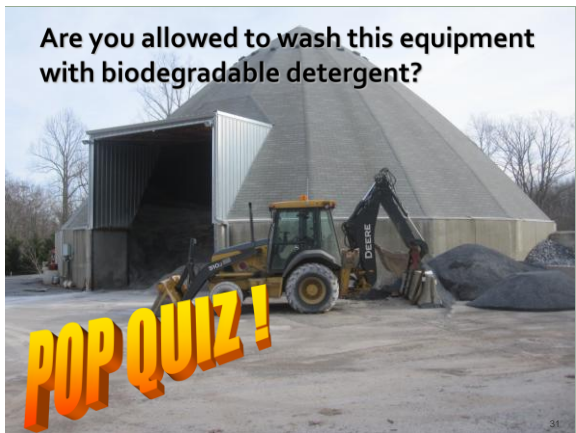
(MD 2008 MSGP, 1.1.3)

The following are the non-stormwater discharges authorized under this permit, provided the non-stormwater component of your discharge is in compliance with Part 2.1.2.10:

- Discharges from **fire-fighting** activities;
- Fire hydrant** flushings;
- Potable water**, including water line flushings;
- Uncontaminated **condensate** from **air conditioners**, coolers, and other compressors and from the outside storage of refrigerated gases or liquids;
- Irrigation drainage**;
- Landscape watering** provided all pesticides, herbicides, and fertilizers are applied in accordance with the approved labeling;
- Pavement wash waters** where **no detergents** are used and no toxic or hazardous materials have occurred (unless all are removed);
- Routine external building washdown that does not use detergents;
- Uncontaminated ground water or **spring water**;
- Foundation or **footing drains** where flows are not contaminated with process materials; and
- Incidental **windblown mist** from **cooling towers** that collects on rooftops or adjacent portions of your facility, but not intentional discharges from the cooling tower (e.g., “piped” cooling tower blowdown or drains).

NOT MANY!

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What is a SWPPP?

- SWPPP = Stormwater Pollution Prevention Plan
- A site-specific, written document that:
 - Identifies potential sources of stormwater pollution at the industrial facility;
 - Describes stormwater control measures that are used to reduce or eliminate pollutants in stormwater discharges from the industrial facility; &
 - Identifies procedures the operator will use to comply with the terms and conditions of the General Discharge Permit.

sometimes called a "P2 Plan"

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TYPICAL ACTIVITIES SUBJECT TO OVERSIGHT

Anything done outside and exposed to rain/snow:

- Fueling
- Maintaining Vehicles and Equipment
- Washing Vehicles and Equipment
- Loading and Unloading Raw Materials
- Liquid Storage in Above-Ground Tanks
- Salt Storage
- Dumpsters
- Soil/compost/sand stockpiles

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What is a SWPPP, really?

It's really 2 things

- The paper PLAN
- The implementation of procedures and behaviors

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Stormwater Pollution Prevention Plan Includes:

- Stormwater Pollution Prevention Team
- Site Plan
- Inventory Materials Exposed to Stormwater
- Implement Best Management Practices
- Employee Training Requirements
- Monthly Site Inspections
- Annual Site Assessment
- Spill Response Procedures

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The Team

- Whose on the TEAM?
- The stormwater pollution prevention team should consist of those people on-site who are most familiar with the facility and its operations.
- Key member(s): If an EPA or State inspector visits the facility, this person will be the main point of contact.
 - Should be on site DAILY.
- Who is on the team at your facility???

The Team

- Are you "qualified"?
- EPA defines qualified personnel as "those who possess the knowledge and skills to assess conditions and activities that could impact stormwater quality at your facility, and who can also evaluate the effectiveness of control measures."

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The Team

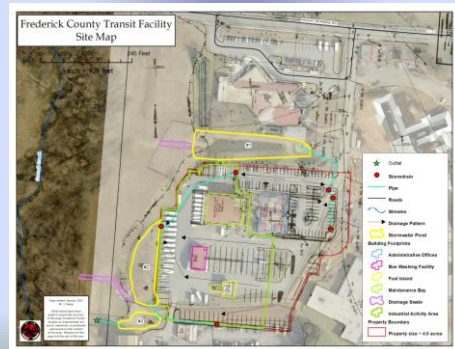
- Each member of the stormwater pollution prevention team should have ready access to either an electronic or paper copy of applicable portions of the industrial stormwater general permit and the SWPPP.

1.3 Stormwater Pollution Prevention Team

Staff Names	Individual Responsibilities
SWPPP Team Leader #1 Bill Routaben - Superintendent Highway Operations	<ul style="list-style-type: none"> SWPPP team leader and emergency contact, with focus on all vehicles and equipment stored and operated on site having to do with Highway Operations, including salt barn activities.
Donnie Crum, Assistant Superintendent Highway Operations	<ul style="list-style-type: none"> Planning and supervision of all pollution prevention activities related to this SWPPP. Custodian of SWPPP and adds records and updates as necessary as a result of major changes in the facility's design, construction, operation or maintenance. Does Routine and Annual Comprehensive site inspections.

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The SWPPP Facility Map



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Materials Inventory

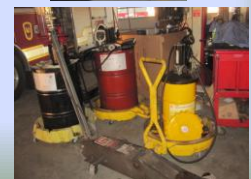
PRODUCT	BRAND
OMNI AE Hardener	PPG
OMNI Medium Reducer	PPG
OMNI Pak Master Blend	Sherwin Williams
Oxygen Tank	Energas
P68 Primer	IPS Corporation
Painters Touch Paint	Silo
Polyurethane Sealant	Silaflex 1A
Propane	Berne-O-matic
PVC Pipe Cement	IPS Corporation
Quik Color	Rust-O-leum
Red Grease	Berkelbile Oil
Ronex MP Grease	ExxonMobil

(1) 275-gallon automotive transmission (ATF) fluid tank (indoors at truck repair shop)
 (1) 275-gallon new motor oil tank (indoors at truck repair shop)
 (1) 275-gallon hydraulic oil tank (indoors at truck repair shop)
 (1) 250-gallon waste oil tank (inside light duty repair shop)
 (1) 500-gallon used motor oil tank (outside of truck repair shop)
 (1) 1625-gallon diesel (outside at diesel generator)
 (1) 6000-gallon Caliber magnesium chloride solution (outdoors adjacent to salt barn)
 (1) 5000-gallon Caliber magnesium chloride solution (outdoors adjacent to salt barn)

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Typical Facility Best Management Practices (BMPs)

- Good Housekeeping
- Preventive Maintenance
- Visual Inspections
- Spill Prevention and Response
- Sediment and Erosion Control
- Management of Stormwater Runoff



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"Structural" BMPs

- Double-Walled Tanks
- Secondary Containment



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Good Housekeeping

1. EPA expects you to set an example for the private sector.
 2. EPA expects you to set an example for the private sector.
 3. EPA expects you to set an example for the private sector.
- Specific good housekeeping practices vary by facility...

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Good Housekeeping



- Regular pickup and disposal of waste materials and scrap equipment;
- Maintenance of clean work spaces;
- Routine inspections for leaks and of the condition of tanks, vehicles and containers;
- Routine inspections to make sure that industrial materials are properly stored and labeled;
- A schedule for sweeping paved areas and floors, including who will perform the sweeping (employee or contractor);
- The individual or position responsible for emptying drip pans placed beneath leaking equipment, valves, and fill lines.

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Employee Training

- All employees from a facility, once per year and all new hires upon entering workforce.

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Top 10 Common Compliance Failures at Industrial Facilities...



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1. No SWPPP
2. Control measures described in SWPPP not used
3. No SWPPP on-site
4. SWPPP not signed
5. Stormwater pollution prevention team not up-to-date
6. On-site staff not familiar with SWPPP
7. Improper collection of visual assessment samples.
8. Uncovered dumpsters
9. Poor employee/contract staff training
10. Inspection or monitoring records are not kept with the SWPPP

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PENALTIES

(2008 MD MSGP)



Civil Penalties Violations of permit conditions = fine of \$27,500 per day for each violation

Criminal Penalties

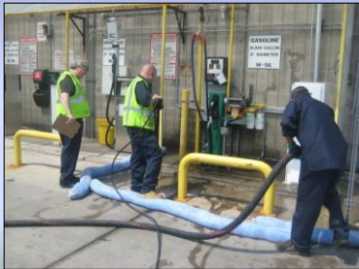
- Any person who **negligently** violates...is subject to a fine of not less than \$2,500 - \$25,000 per day of violation, or by imprisonment for not more than one (1) year, or by both.
- Any person who **knowingly** violates...is subject to a fine of not less than \$5,000 - \$50,000 per day of violation, or by imprisonment for not more than three (3) years, or by both.
- Any person who **knowingly** violates...and who knows at that time that he thereby places another person in **imminent danger of death** or serious bodily injury, is subject to a fine of not more than \$250,000 or imprisonment of not more than fifteen (15) years, or both.
 - Corporation subject to fine of \$1 Million.

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Spill Response and Notification

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1. Minor vs. Major Spills
2. Response and Notification



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Minor Spills

- **Minor** spills are considered to be those of **less than 5-gallons** which pose no significant harm to human health or the environment and have not entered the storm sewer system, stormwater pond, water body or the groundwater table.



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Minor Spill Response Procedures

- Stop leaks
 - Roll drums upright (hole pointing up)
 - Turn off process
 - Shut pipe valves
- Contain spills
 - Booms, pads, sand, dirt
- Divert runoff from spills away from storm drain inlets
- Patch leaks – temporary patch until a permanent solution is applied
- Recover/remove contaminated materials



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Minor Spill Notification

- All minor spills must be documented by the SWPPP Team members or other designated personnel using the Spill/Release Incident Form (Attachment F)

1. Keep the original filled spill form in the SWPPP.
2. A copy of filled spill form must be sent to the Superintendent.
3. A copy of the filled spill form is sent to MDE.

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MDE Reporting Requirements

- COMAR 26.10.01.03
- All oil spills onto land or water, including oil spills from vehicles, ships, boats, or vessels of any kind, must be reported to MDE immediately by phone (but not later than **2 hours** after detection).
- MDE requires written report as well within 10 days of clean up.
- No volume threshold for reporting!!!!**

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Minor Spill Notification Form

SPILL NOTIFICATION FORM			
Part A: Basic Spill Data			
Type of Spilled Substance	Notification Person		
Quantity Released	Spill Date and Time		
Location of Spill	Discovery Date and Time		
	Spill Duration		
Facility Name & Location	Release to: <input type="checkbox"/> air <input type="checkbox"/> water <input type="checkbox"/> land		
Frederick County Transit Facility 2400 Rocky Springs Road, Frederick, Maryland 21703	<input type="checkbox"/> spill <input type="checkbox"/> leak <input type="checkbox"/> overflow		
Owner / Company Name	Telephone		
Frederick County Fleet Services Frederick County Commissioners 12 E. Church Street Frederick, Maryland 21703	Facility: 800-400-1572 Fax: 301-400-1743		
Nature of spill and any environmental or health effects (e.g., odors, fire, explosion)			
Part B: Notification Checklist			
Spill Type	Notification Date and Time	Name of Person that Received Call	Spills from Spill Kit Used
Spill is any amount of petroleum products: Fleet Services Per Hazard 302, 600-3588 or Valve Site 302, 600-3572 or 800-302-7823 (after hours) Maryland Department of the Environment (24 hours: 888-633-6886, or: 410-326-3931)			Public, Business, Regs. Officers Does Spill Kit need to be filled
Spill reaches groundwater or surface water: Maryland Department of the Environment (24 hours: 888-633-6886, or: 410-326-3931)			
Spill reaches ground/surface water: National Response Center 1-800-424-8802 Region 18 Response Center 333, 3rd St. SE Washington, DC 20003			
Spill greater than 1,000-gallons or second event of greater than 42 gallons released in 12-month period: U.S. EPA Region-3 2000 Arch Street (PH-3) Philadelphia, PA 19103-2029 215.634.3000 or (800) 424-8874			

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Major Spills = 911

- Major** spill is considered an emergency. It is a spill that cannot be safely contained by staff or cleaned up and/or has made its way into the storm sewer system, stormwater pond, waterbody or groundwater table or is a threat to human health.

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Major Spill continued

- The discharge is large enough to spread beyond the immediate discharge area;
- The discharged material enters a storm drain or stream, lake;
- The discharge requires special equipment or training to clean up; and/or
- The discharged material poses a hazard to human health or safety.



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CALL THE CONTRACTOR!

The county has a contract with the following emergency response contractors.

- DFRS / Hazmat**
911 or non-emergency#
301-600-1603
- Burns Septic & Tank Cleaning**
2360 Dairyland Drive, Westminster
1-877-89-BURNS
- Floyd E. Cline & Sons, Inc.**
3434 Brethren Church Rd, Myersville
301-293-2349



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Major Spill Notification

- All major spills must be documented by the Stormwater Pollution Prevention Team members or other designated personnel using the Spill/Release Incident Form (Attachment F)
- SWPPP team leader or whomever is on site will contact BOTH:

1.

• MARYLAND DEPARTMENT OF THE ENVIRONMENT
• 1-(866) 633-6686,
available on a 24-hour basis.

2.

• NATIONAL RESPONSE CENTER
• 1-(800) 424-8802, available on a 24-hour basis.

- Keep original filled form in the SWPPP folder.
- A copy of filled form must be sent to the Superintendent.
- A copy is mailed to MDE within ten days.

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N.R.C. Oil Spill Reporting Requirements:

1. Violate applicable water quality standards;
2. Cause a film or "sheen" upon, or discoloration of the surface of the water or adjoining shorelines; or
3. Cause a sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shorelines

- NRC is the federal government's centralized reporting center, which is staffed 24 hours per day by U.S. Coast Guard personnel.

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MDE Reporting Requirements

- All oil spills onto **land or water**, including oil spills from vehicles, ships, boats, or vessels of any kind, must be reported to MDE immediately (but not later than 2 hours after detection).
- MDE requires both verbal and written reports.
- No volume threshold mentioned.

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The image shows a screenshot of a Maryland Department of the Environment (MDE) Oil Spill Reporting Form. Red arrows point to several key sections: 'Location of Spill/Release' (top left), 'Cause of spill' (middle left), 'Detailed Description' (bottom left), 'Signature' (bottom left), 'Notification Numbers' (top right), 'Amount Spilled/Released' (middle right), and 'Cleanup Procedure' (bottom right). The form includes fields for incident details, responsible parties, and cleanup actions.

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Quarterly (Routine) & Annual Site Inspections

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SWPPP CUSTOMIZED Routine Inspections

The image shows a screenshot of a 'Stormwater Industrial Facility Quarterly/Routine Inspection Report' form. The form is titled 'SECTION A: GENERAL INFORMATION' and includes fields for Facility Name, Facility Address, Date of Inspection, Inspector's Name(s) and Contact Information, and Facility Representative(s) in Attendance and Contact Information. A red box highlights the title 'Quarterly/Routine Inspection Report'. At the bottom, there is a 'Weather Information' section with checkboxes for Clear, Cloudy, Rain, Sleet, Fog, Snow, High Winds, and Other. A red arrow points to the bottom right corner of the form, indicating it is page 10 of 10.

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SWPPP CUSTOMIZED ANNUAL Inspections

- More comprehensive than quarterly form inspection.
- Might include:
 - Integrity testing of containment vessels with results documented.
 - Suggested modifications of behaviors or stormwater BMPs to better handle recurring spills
 - Updating SWPPP to reflect changes at facility, new buildings, new activities etc.



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SWPPP CUSTOMIZED ANNUAL INSPECTIONS

Stormwater Industrial Facility Annual/Comprehensive Inspection Report

SECTION A: GENERAL INFORMATION

Facility Name: Frederick County Highway Operations and Fleet Services
- Frederick Facility

Facility Address: 331 Montevue Lane, Frederick, MD 21702

....17 pages

- Will also include review of all quarterly/routine inspection forms for the year.

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SWPPP **ANNUAL** INSPECTIONS

- **Original stays on site in the SWPPP.**
- **Copies** of all forms and record keeping documents must be submitted to Jessica Seipp with WMS by December 31st of each year.
- She can be reached at 301.600.1350 or jseipp@frederickcountymd.gov.

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RECORD KEEPING...



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Record Keeping

- **Document your compliance!!!**
 - permits,
 - inspections,
 - maintenance,
 - monitoring,
 - corrective actions,
 - spills,
 - secondary containment failures,
 - trainings & curriculum
- It all must go in the on-site SWPPP!

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Record Keeping

[illegible]

Collage of Violations





QUESTIONS AND ANSWERS?



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THE END

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